

**UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF MICHIGAN**

UNITED STATES OF AMERICA,

Plaintiff,

And

NATURAL RESOURCES DEFENSE  
COUNCIL, INC. AND SIERRA CLUB,

Intervenor-Plaintiffs,

v.

DTE ENERGY COMPANY AND  
DETROIT EDISON COMPANY,

Defendants.

Civil Action No.  
2:10-cv-13101-BAF-RSW

Judge Bernard A. Friedman

Magistrate Judge R. Steven Whalen

**DEFENDANTS' MOTION *IN LIMINE* TO EXCLUDE  
THE OPINIONS OF ROBERT H. KOPPE AND RANAJIT SAHU**

Pursuant to the scheduling order of the Court [Doc. No. 82] and Federal Rule of Evidence ("FRE") 702, Defendants DTE Energy Company and Detroit Edison Company (collectively "Detroit Edison") respectfully move *in limine* for the exclusion of the opinions of Robert H. Koppe and Ranajit Sahu. In accordance with Local Rule 7.1(a), the parties conferred on the nature of this motion and its legal basis, but were unable to reach a concurrence in the relief sought.

In support of this motion, Detroit Edison states as follows:

1. Plaintiff bears the burden of proving that the three tube projects that Detroit Edison undertook at Monroe Unit 2 during the spring 2010 periodic outage were “major modifications.” *See* MICH. ADMIN. CODE R. 336.2802.

2. A project is a “major modification” “if it causes... a significant emissions increase and a significant net emissions increase.” *Id.*

3. Plaintiff intends to rely on the collaborative opinions of Robert H. Koppe and Ranajit Sahu (the “Koppe-Sahu” method) to support their allegation that the three tube projects in issue cause an emissions increase.

4. Under FRE 702 and *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579 (1993), and Sixth Circuit case law following and interpreting *Daubert*, in order to be admissible the Koppe-Sahu method must be relevant to – or “fit” – the issues in the case.

5. The Seventh Circuit and the district court for the Northern District of Alabama recently held in other NSR enforcement cases that the Koppe-Sahu method is not relevant under Federal Rule of Evidence 702. *See U.S. v. Cinergy Corp.*, 623 F.3d 455, 460 (7th Cir. 2010); *U.S. v. Alabama Power Co.*, No. 01-00152, slip op. (N.D. Ala. Mar. 14, 2011). The Koppe-Sahu method is based on the assumption that an increase in availability of a unit will result in a proportionate increase in generation. This assumption does not apply unless a unit is operated as a “baseload” unit.

6. Monroe Unit 2 is not a “baseload” unit as the term is defined and used in *Cinergy* and *Alabama Power*. Accordingly, the Koppe-Sahu method does not apply here and is not relevant.

7. Furthermore, as set forth in Defendants’ Brief in Support of Motion for Summary Judgment Based on the 2002 New Source Review (“NSR”) Reform Rules [Doc. No. 107], the

Michigan NSR Rules set forth specific requirements MICH. ADMIN. CODE R. 336.2818(3), R. 336.2801(II)(ii)(A). The Koppe-Sahu method will not answer whether Detroit Edison complied with the requirements of the Michigan NSR rules; therefore, the Koppe-Sahu method is not relevant to any issue in this case for this second, independent reason.

For these reasons, as more fully set forth in Detroit Edison's supporting memorandum of law, the Court should exclude the opinions of Robert H. Koppe and Ranajit Sahu.

Respectfully submitted this 5<sup>th</sup> day of August, 2011.

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**CERTIFICATE OF SERVICE**

I hereby certify that a true and correct copy of the foregoing **DEFENDANTS' MOTION IN LIMINE TO EXCLUDE THE OPINIONS OF ROBERT H. KOPPE AND RANAJIT SAHU** was electronically filed with the Clerk of Court using the CM/ECF system, which will automatically send email notification of such filing to the following attorneys of record as follows:

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This 5<sup>th</sup> day of August, 2011.

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**DEFENDANTS' MEMORANDUM OF LAW IN SUPPORT OF MOTION *IN LIMINE* TO  
EXCLUDE THE OPINIONS OF ROBERT H. KOPPE AND RANAJIT SAHU**

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## CONTROLLING OR MOST APPROPRIATE AUTHORITY

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**STATEMENT OF ISSUES PRESENTED**

1. Consistent with recent decisions in the Seventh Circuit and Northern District of Alabama, should this Court likewise exclude the opinions of Robert H. Koppe and Ranajit Sahu as ***not relevant*** pursuant to FRE 702 and *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 591 (1993) (discussing analytical “fit”)?

Defendants’ answer: Yes.



### PRELIMINARY STATEMENT

Defendants DTE Energy Company and Detroit Edison Company (collectively “Detroit Edison”) submit this Memorandum of Law in Support of their Motion *In Limine* to Exclude the Opinions of Robert H. Koppe and Ranajit Sahu. This motion goes to the heart of Plaintiff’s case. Two courts have recently ruled that these experts’ methodology is inadmissible in New Source Review cases, ***and dismissed those cases***.<sup>1</sup> The methodology is identical in this case, and this Court should likewise exclude their opinions.

Plaintiff filed this case alleging that Detroit Edison failed to obtain a preconstruction permit before undertaking projects that, in Plaintiff’s view, constituted “major modifications” resulting in “significant net emission increases.” (Doc. No. 1 at 13). Plaintiff intends to offer the collaborative testimony of Koppe and Sahu (“the Koppe-Sahu method”) to support its allegation that the boiler tube projects in issue resulted in a significant net emissions increase. Pursuant to Rule 702 of the Federal Rules of Evidence (“FRE”), the Court should exclude testimony regarding the Koppe-Sahu method because: (i) as recently held by the U.S. Court of Appeals for the Seventh Circuit and the U.S. District Court for the Northern District of Alabama, the Koppe-Sahu method is relevant only to units that operate at full capacity whenever they are available to operate (known as “baseload units”), and (ii) Monroe Unit 2 was not operated as such a baseload unit during the relevant time periods.

In short, as explained fully below, *Cinergy* and *Alabama Power* hold that the Koppe-Sahu method applies, if at all, only to units that operate virtually continuously at full capacity. Conversely, the Koppe-Sahu method does ***not*** apply to units that are “load-following” units, that cycle their output in response to daily and seasonal demand variations rather than running

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<sup>1</sup> See *U.S. v. Cinergy Corp.*, 623 F.3d 455, 460 (7th Cir. 2010); *U.S. v. Alabama Power Co.*, No. 01-00152, slip op. (N.D. Ala. Mar. 14, 2011) (attached as Exhibit 1).

continuously at full capacity. Monroe Unit 2 was not operated as a “baseload” unit at the time that the relevant projects were being planned and performed. Thus, because the Koppe-Sahu method is based entirely upon a false assumption — *i.e.*, that Monroe Unit 2 operates continuously at full capacity — the Koppe-Sahu method simply does not “fit” the facts of this case as required under *Daubert* and must be excluded.

## BACKGROUND

### I. Statutory and Regulatory Background Relevant to the Projection of a “Significant Net Emissions Increase”

For an existing source, such as Monroe Unit 2, the Michigan PSD rules apply only to “major modifications.” MICH. ADMIN. CODE R 336.2802.<sup>2</sup> A project is a “major modification” “if it causes ... a significant emissions increase and a significant net emissions increase.” *Id.* at 336.2802(4)(a)(i), (ii). “A significant emissions increase of a regulated new source review pollutant is projected to occur if the sum of the difference between the projected actual emissions and the baseline actual emissions for each existing emissions unit, equals or exceeds the significant amount for that pollutant.” *Id.* at 336.2802(4)(c). While the Michigan NSR rules provide that the “actual-to-projected-actual applicability test may be used,” the rules do not identify or require the use of a particular method or technique for making that projection. *See id.* Rather, the rules provide guidance on factors to consider and to exclude in making the projection of “projected-actual” emissions. *See id.* at 336.2801(II). Relevant here is the requirement that in making the projection the owner or operator of the source “[c]onsider all relevant information,

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<sup>2</sup> Michigan has adopted the most recent (2002) NSR rules (“NSR Reform Rules”) in its state implementation plan (“SIP”) for PSD. Mich. Admin. Code R. 336.2801, et seq. Because Michigan’s SIP for “nonattainment” NSR has not yet been approved by EPA, the NSR Reform Rules for nonattainment areas in the state apply through Appendix S to 40 C.F.R. pt. 51 (2008). Because the PSD rules, which have been approved, are identical in all relevant respects to the nonattainment NSR rules, they will be collectively referred to as the “Michigan NSR Rules.”

including but not limited to, historical operational data, the company's own representations, the company's expected business activity and the company's highest projections of business activity, the company's filings with the state or federal regulatory authorities, and compliance plans under the state implementation plan." *Id.* at 336.2801(ii)(A) The Michigan NSR rules certainly do **not** provide that an assumed increase in availability automatically results in increased generation and emissions, as the Koppe-Sahu method projects in every case.

Plaintiff bears the burden of proof. It must satisfy "the burden of proving, to state a *prime facie* case, that the projects at issue were 'major modifications,' meaning 'a physical change that resulted in a net emissions increase.'" *Alabama Power*, No. 01-00152, slip op. at 9 (citing *Env'tl. Def. v. Duke Energy Corp.*, 549 U.S. 561, 569 (2007)); *see also Nat'l Parks Conserv. Ass'n v. Tenn. Valley. Auth.*, No. 3:01-cv-71, 2010 U.S. Dist. LEXIS 31682, at \*66 (E.D. Tenn. Mar. 31, 2010) (plaintiffs bear burden of proving there is a "major modification.") Plaintiff relies on the Koppe-Sahu method to meet that burden here, just as it did in *Cinergy* and *Alabama Power*.

## II. The Koppe-Sahu Method

As in other NSR enforcement actions brought by the government, Sahu and Koppe have collaborated on an emissions increase approach to support Plaintiff's case on emissions increases. *See, e.g., Alabama Power*, slip op. at 11. Koppe attempts to estimate how the projects at issue would affect future availability, and Sahu converts those estimated changes in availability into **assumed** changes in generation and emissions.

In this case, the Koppe-Sahu method is precisely the same method used in *Cinergy* and *Alabama Power*. First, Koppe reviewed the Company's Generating Availability Data System ("GADS") event reports for the sixty month period prior to the spring 2010 periodic outage at Monroe 2 when Detroit Edison undertook the three boiler tube projects (the "Projects").

Declaration of Robert Koppe (“Koppe Dec.”), Doc. 8-16 at 5-7 (Aug. 8, 2010). He reviewed the reports to identify the GADS “events”<sup>3</sup> that he believes can be attributed to the economizer or pendant reheater.<sup>4</sup> Second, Koppe, again relying on the GADS event data, provided Sahu with the “output factor” for Monroe Unit 2 during the 60-month period. *Id.* at 28. In essence, “output factor” is a measure of how close to full power that a plant is operating when it is on-line: “The output factor for a unit is the ratio of the amount of power the unit actually generated to the amount it could have generated had it always operated at full power whenever it operated at all.” *Alabama Power*, slip op. at 12 n.6. Then Sahu identified a 24-month period from within the 60-month period as his pre-project baseline. Koppe Dec., Doc. 8-16 at 4; Sahu Dec., Doc. 8-13 at 3; *see also* Sahu Report at 7-8 (attached as Exhibit 3).

While Koppe and Sahu explain the next step in their analysis at great length, it can be easily summarized. Sahu calculates the lost availability due to the GADS events (outages or derates) identified by Koppe during the baseline period. Koppe Dec., Doc. No. 8-16 at 5; Sahu Report at 8. Sahu then assumes that Monroe Unit 2 will be available in the future to operate an

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<sup>3</sup> GADS “events,” which occur “any time a [] unit’s operating status or capability changes,” are outages (where the Unit is forced to shutdown), derates (where the Unit is forced to operate at a lower capacity), reserve shutdowns (where the Unit is shutdown even though it is capable of operating) and noncurtailing events. GADS Reporting Instructions at p. III-1 (2011), available at [http://www.nerc.com/files/GADS\\_DRI\\_Complete\\_Version\\_010111.pdf](http://www.nerc.com/files/GADS_DRI_Complete_Version_010111.pdf) (relevant excerpts attached as Exhibit 2). For purposes of Koppe’s analysis, only the first two are relevant. For each “event,” the operator records a “cause code,” which indicates the cause, often in terms of the component that failed, of the outage or derate, *e.g.* cause code 1000 is for the “waterwall (furnace wall).” *Id.* at App. B-FS-1, 2. Furthermore, the duration of the event is reported. Thus, from a GADS event report, one can calculate the number of hours a unit was unable to operate (in the case of a forced outage) or was forced to operate at a lower capacity (in the case of a derate) in a given time period; and, for the two together, the number of equivalent “full power hours” in which the unit was unavailable, or the amount of megawatt-hours of lost availability, in a given time period.

<sup>4</sup> Koppe did not attempt to identify GADS events attributable to the waterwall. Declaration of Ranajit Sahu (“Sahu Dec.”), Doc. 8-13, at 4 (Aug. 3, 2010) (“To simplify matters, we [Koppe and Sahu] only considered GADS [event] data for the economizer and pendant reheater....”).

additional number of full-power hours that is equivalent to the number of full-power hours that Monroe Unit 2 was in an outage or in a derate from tube failures during the 24-month baseline period, *i.e.* Monroe Unit 2 will “recover” all of those megawatt-hours without losing any availability from other causes. Sahu Report at 8-9. Finally, Sahu assumes that the increase in the availability of Monroe Unit 2 will result in a proportional increase in generation, at the same output factor as in the pre-project period.<sup>5</sup> See Reply Declaration of Ranajit Sahu (“Sahu Reply Dec.”), Doc. 58-14 at 2 (Nov. 18, 2010). Sahu then translates this “projected” increase in generation into an increase in emissions,<sup>6</sup> which he (invariably) finds to be above the significant threshold. Sahu Report at 8-9.

The Koppe-Sahu method does not even attempt to account for the numerous variables that will affect availability and generation in the future. The method holds constant all other factors affecting availability and generation, even though common sense tells us that those factors are constantly changing over time. At most the Koppe-Sahu method calculates what the *past* may have been like if the GADS events (*i.e.*, tube failures) had not occurred, and everything else remained constant. Because Sahu looks at this past instead of projecting the future, he does not account for a host of factors (*e.g.*, fuel issues, demand, other component failures, etc.), that may be different in the post-project period than in the pre-project baseline period. This is inconsistent with the requirements of the Michigan NSR rules. As noted above, the rules do not

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<sup>5</sup> Because Sahu assumes that future availability will *always* increase by the precise amount previously lost (irrespective of other factors affecting future availability) and that the unit will *always* operate at its historic output factor (irrespective of other factors affecting future generation), the Koppe-Sahu method will *always* project a generation increase. Mathematically, there can be no other result regardless of what actually occurs in the real world. See *Cinergy*, 623 F.3d at 460 (discussing unrealistic results of methodology as applied).

<sup>6</sup> This calculation involves multiplying the generation by the unit’s heat rate (a measure of the unit’s efficiency) and an emissions factor, both of which are constants that are unaffected by the projects. Sahu Report at 7-9 (Apr. 22, 2011).

specify the precise method for method for making a projection; however they expressly require that the projection consider all relevant information. As a result of its overly simplistic nature, the Koppe-Sahu method does not meet that requirement. Moreover, the method compounds its skewed assumptions with the false assumption that increased availability automatically causes increased generation at non-baseload units such as Monroe 2. *Cinergy* and *Alabama Power* confirm that the Koppe-Sahu Method cannot be used this way.

### **III. The Use of the Koppe-Sahu Method in NSR Enforcement Cases**

Since the inception of EPA's NSR enforcement initiative in 1999, EPA and those bringing NSR enforcement actions under the citizens suit provision of the Clean Air Act, have pinned the success of their emissions argument on the Koppe-Sahu method. Another expert, Richard Rosen, has at times performed Sahu's portion of the analysis; however, in all cases the methodology is precisely the same. *Cinergy* Trial Tr. vol. III at 286 (5/13/09) (attached as Exhibit 4). In fact, the Koppe-Sahu method was created specifically for NSR litigation. A group of hired experts and government attorneys developed this methodology for the first time in 2000 solely for the purposes of the EPA's NSR enforcement initiative:

Q In the early stages of this litigation before this formula was created, you participated in a number of conference calls to discuss the kind of formula or methodology or approach you were going to take in this case, didn't you?

A [Rosen] Yes, that's right.

Q And Mr. Koppe participated in those conference calls; is that correct?

A He often did. That's correct.

Q Mr. Hekking participated in those conference calls, correct?

A Yes, he did sometimes. Less frequently than Mr. Koppe.

Q Tell us who else participated in those conference calls?

A There were some calls in which a Mr. -- I'm sorry -- Dr. Sahu participated and then, as far as I remember, several of the attorneys involved in the Ohio Edison case participated in those initial phone calls. I don't think any of those attorneys are present here today.

Q But those are Justice Department attorneys involved in NSR cases, right, sir?

A Some were Justice Department attorneys. Some were New York state attorneys. Some might have been attorneys from other states, Attorney Generals.

Q And you would characterize those calls as brainstorming, correct?

A Yes.

*Cinergy* Trial Tr. vol. 7 at 16-17 (5/13/08) (attached as Exhibit 5).

Prior to these "brainstorming" sessions, neither the government, their experts, nor the electric utility industry used this methodology to project increases in generation or emissions.<sup>7</sup>

*Cinergy* Trial Tr. vol. 7 at 20-24; *see also* *Cinergy* Trial Tr. vol. III at 289-92 (5/13/09). Since developing this method for NSR enforcement litigation, Plaintiff has relied on some combination of the experts who participated in those brainstorming sessions to support their emissions increase argument. Most recently, the government has relied, without success, on that methodology in the *Alabama Power* and *Cinergy* NSR enforcement cases.

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<sup>7</sup> This alone calls into question the admissibility of the Koppe-Sahu method. *See Nemir v. Mitsubishi Motors Corp.*, 200 F. Supp. 2d 770, 773 (E.D. Mich. 2002) ("In addition to these *Daubert* factors, the Sixth Circuit has added a fifth factor: 'whether the experts are proposing to testify about matters growing naturally and directly out of the research they have conducted independent of the litigation, or whether they have developed their opinions expressly for purposes of testifying because the former provides important objective proof that the research comports with the dictates of good science.'") (quoting *Smelser v. Norfolk Southern Ry. Co.*, 105 F.3d 299, 303 (6th Cir. 1997), *cert denied*, 522 U.S. 817 (1997)).

## ARGUMENT

### I. Standard of Review of Proposed Expert Testimony

Rule 702 of the Federal Rules of Evidence governs the admissibility of expert testimony:

If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise, if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.

The requirement that the expert testimony “assist the trier of fact to understand the evidence or to determine a fact in issue” means that the testimony must be relevant to the case. *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 591 (1993) (“The consideration has been aptly described as ... ‘fit.’”). The Sixth Circuit has likewise addressed the relevance prong of *Daubert*: “This requirement has been interpreted to mean that scientific testimony must ‘fit’ the facts of the case, that is, there must be a connection between the scientific research or test result being offered and the disputed factual issues in the case in which the expert will testify.” *Pride v. BIC Corp.*, 218 F.3d 566, 578 (6th Cir. 2000). Accordingly, a court may exclude “opinion evidence which is connected to existing data only by the *ipse dixit* of the expert” because “there is simply too great an analytical gap between the data and the opinion proffered.” *General Elec. Corp. v. Joiner*, 522 U.S. 136, 146 (1997). Moreover, “the Court should focus on the expert’s methodology rather than the expert’s conclusions, but the conclusions [also] must be connected to the existing data by more than the *ipse dixit* of the expert.” *Meemic Ins. Co. v. Hewlett-Packard Co.*, 717 F. Supp. 2d 752, 762 (E.D. Mich. 2010). “In short, under *Daubert* and its progeny, a party proffering expert testimony must show by a ‘preponderance of proof’ that the expert whose testimony is being offered is qualified and will testify to scientific knowledge that



will assist the trier of fact in understanding and disposing of relevant issues.” *Sigler v. Am. Honda Motor Co.*, 532 F.3d 469, 478 (6th Cir. 2008) (quoting *Pride*, 218 F.3d at 578) (internal quotations omitted).

Within the past year two federal courts in other NSR enforcement cases have examined the precise “principles and methodology” at issue here, *i.e.*, the Koppe-Sahu method, and concluded it was not relevant. Neither Koppe nor Sahu have changed their principles or method as a result. See Reply Declaration of Robert Koppe (“Koppe Reply Dec.”), Doc. 58-10 at 1 (Nov. 18, 2010) (“This is the same approach that I have used for the last 37 years, and that Dr. Sahu (or Dr. Rosen) and I have used in other enforcement cases...”); Koppe Dec., Doc. 8-16 at 4 (“This same methodology has been used in several [NSR] enforcement cases including the *Ohio Edison* and *Cinergy* cases.”). This Court should reach the same result as the courts in *Cinergy* and *Alabama Power* and exclude all the opinions based on the irrelevant methodology.

## **II. The Koppe-Sahu Method is Not Relevant and Should Be Excluded from Trial**

### **A. The *Cinergy* and *Alabama Power* Decisions**

The *Cinergy* and *Alabama Power* cases were both NSR enforcement actions brought by the government against electric utilities. In both cases the government – as it has done in every enforcement case – relied on the precisely the same methodology on which the Plaintiff relies here. See *Cinergy*, 623 F.3d at 460; *Alabama Power*, slip op. at 17.<sup>8</sup> And, in both cases, the courts dismissed the government’s NSR claims against the defendants after excluding the expert testimony relying on that methodology. *Id.*

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<sup>8</sup> In *Cinergy*, Rosen performed the portion of the analysis done by Sahu here and in *Alabama Power*; however, as noted above, it is undisputed that the methodology is the same irrespective of which expert performs it.

In *Cinergy*, the government argued a number of projects constituted “major modifications.” *See Cinergy*, 623 F.3d at 456. The district court permitted the testimony of Koppe and Rosen (who performed the portion of the method done by Sahu both in *Alabama Power* and in this case), despite challenges from Cinergy, and the jury at the district court level found liability for four projects of the fourteen projects at issue. *Id.* at 457. On appeal, the Seventh Circuit reversed the judgment against Cinergy. *Id.* at 459.

The Seventh Circuit addressed the question of “whether the district court was right to allow the EPA’s expert witnesses to testify that the modifications made would result in an increase in annual emissions.” *Id.* In reaching the conclusion that the district court should not have allowed the testimony, the Seventh Circuit found that the “main problem with the proposed testimony was the formula that the two experts proposed to use for their forecast was designed for use with base-load generating plants.” *Id.* The Seventh Circuit recognized the key flaw in the methodology – the assumption that an increase in availability or capacity results in a proportionate increase in generation or output – and concluded that for a non-baseload unit “[t]here can be no presumption that an increase in its annual capacity would result in a proportionally equal increase in its output.” *Id.* at 460. Because the Seventh Circuit found that the Cinergy units were not operated as baseload units, it held that the experts’ methodology could not be applied. *Id.* Accordingly, the Seventh Circuit held that the expert testimony should have been excluded and it directed that judgment be entered for *Cinergy*. *Id.*

Similarly, in *Alabama Power*, the government alleged NSR violations relating to boiler projects at multiple units. *Alabama Power*, slip op. at 6. As in *Cinergy* and in this case, the government relied on the Koppe-Sahu method to support its allegations that the projects caused a significant emissions increase. *Id.* at 11. Alabama Power moved to exclude the testimony of

Koppe and Sahu pursuant to FRE 702, and the court held an evidentiary hearing on the challenges including live testimony from Koppe. Ultimately, the court granted Alabama Power's motion to exclude all testimony regarding the Koppe-Sahu method. *Id.* at 23.<sup>9</sup>

The court found "the reasoning of the Seventh Circuit persuasive and agree[d] that the Koppe-Sahu methodology only works if the unit is operated as baseload unit." *Id.* at 14. The court then examined whether the Alabama Power units at issue were "baseload" units as *Cinergy* defined the term. While the parties in *Alabama Power* "point[ed] the Court to various sources for a correct definition," the court held "that the definition of relevance ... is the one used in *Cinergy* ... a facility that operates 'virtually continuously' at 'full capacity'." *Id.* (citing *Cinergy*, 623 F.3d at 459-60). As the court further observed, "[t]he reason that the Koppe-Sahu methodology works for baseload units and not cycling units is because the presumption that an increase in a facility's annual capacity will result in a proportionally equal increase in its output is only valid if the facility is operated virtually continuously at the highest level of output possible." *Id.* at 17.

After determining the relevant definition of "baseload" for NSR cases, the court examined each of the three Alabama Power units in issue to determine whether they were operated as baseload units during the relevant pre-project periods. *Id.* at 18-23. In that analysis, the court rejected the Plaintiffs' focus on the unit's capacity factor and instead focused on the output factor as a "more accurate measure ... of whether or not the unit was operated as a

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<sup>9</sup> On that same day, based on the exclusion of the testimony of Koppe and Sahu, which provided "the heart of the Plaintiffs' case on emissions," the district court granted summary judgment to Alabama Power. *Alabama Power*, slip op. at 11; Final Judgment Order at 2 (Mar. 14, 2011) (granting Defendant's Motion for Summary Judgment) (attached as Exhibit 7).

baseload unit.” *Id.* at 18-19 n.12.<sup>10</sup> Using output factors that Koppe had calculated, the court determined that none of the three units were operated as baseload units during the relevant pre-project period. *Id.* at 21-23. Accordingly, the court excluded the testimony of Koppe and Sahu, “consistent[] with the Seventh Circuit’s opinion in *Cinergy*,” because “none of the units remaining at issue ... were operated as baseload units” and “the [Koppe-Sahu method] is not valid when applied to units not operated as baseload units.” *Id.* at 23.

In short, the *Cinergy* and *Alabama Power* courts found that the Koppe-Sahu method does not “fit” in NSR cases for electric generating units that are not operated “virtually continuously at the highest level of output possible.” *Alabama Power*, slip op. at 17; *see also Cinergy*, 623 F.3d at 460. What the courts in *Cinergy* and *Alabama Power* recognized – and for what the Koppe-Sahu method fails to account – is that non-baseload units will not necessarily operate more as a result of an increase in availability because many variables in addition to and independent of availability influence whether and at what capacity Detroit Edison operates Monroe Unit 2. Thus, the driving assumption of the Koppe-Sahu method – that an electric generating unit will operate every “recovered” hour at the output factor at which it operated during the respective baseline – is incorrect for a non-baseload unit.<sup>11</sup>

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<sup>10</sup> Capacity factor is a ratio of the actual generation to the maximum possible generation for a particular unit, where the maximum generation is calculated by assuming the unit runs every hour of every day at its full capacity. In contrast, output factor is a ratio of the actual generation to the maximum amount the unit could have generated **when it was actually operating**: “Thus capacity factor does not exclude the time period that unit spends in forced shutdowns, which includes the time that the unit is not in operation due to the faulty machinery that the project is repairing ... [whereas output factor] ... gives a picture of how the unit would operate if there were no mechanical limitations.” *Alabama Power*, slip op. at 18-19 n.12.

<sup>11</sup> In *Cinergy*, the court denied plaintiffs’ petition for rehearing, which argued that the Koppe-Sahu method was applicable to non-baseload units if certain conditions are met (as Koppe appears to argue here). *See Cinergy* Order at 1 (Dec. 29, 2010) (attached as Exhibit 6); *see also Alabama Power*, slip op. at 20 n.14 (rejecting the same argument).

**B. The Koppe-Sahu Method Does Not “Fit” This Case Because Monroe Unit 2 is Not a “Baseload” Unit.**

While “baseload” is a commonly used term in the electric utility industry, it has a range of meanings depending on the context. *See, e.g., Alabama Power*, slip op. at 14 n.8. The *Cinergy* court relied on a specific, narrow definition of “baseload.” *Id.* at 14-15. Trying to avoid the implications of *Cinergy* and *Alabama Power*, Koppe repeatedly uses the term “baseload” as it is defined in other contexts in a game of semantics. *See, e.g.,* Expert Report of Robert H. Koppe (“Koppe Report”) at 9-10 (Apr. 22, 2011) (attached as Exhibit 8). These other broader definitions are not relevant. In fact, in *Alabama Power*, the court expressly rejected Koppe’s broader definition of “baseload” and concluded that under *Cinergy* the only relevant definition is whether a unit operates at full capacity whenever it is on-line. *Alabama Power*, slip op. at 14 n. 8.<sup>12</sup>

As discussed above, in *Alabama Power* the court found that none of the units in the case were baseload units. Alabama Power operated two of those units, Greene County Unit 2 and Gorges Unit 10, similarly to how Detroit Edison operated Monroe Unit 2 during the baseline period. Both Greene County Unit 2 and Gorges Unit 10 operated all or nearly all of the time they were available. *Alabama Power*, slip op. at 21-23. During their respective baselines, Greene County Unit 2 and Gorges Unit 10, had relatively high output factors of 78.7% and

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<sup>12</sup> As the court explained Koppe’s testimony, “... Koppe testified that there are two ways in which the term ‘baseload’ is commonly used. He stated that one is a relatively broad definition, which is that the unit operates for most of the time when it is available. He also recognized that there is a narrower definition that is sometimes used, which is that not only does the unit operate most of the time when it is available, but it generally operates at full power when it is available.” *Alabama Power*, slip op. at 14 n.8 (internal citations omitted).

82.1% respectively.<sup>13</sup> The *Alabama Power* court found that while these two units were operated “virtually continuously” (they operated nearly every hour that they were available), they did not operate at full capacity and, therefore, were not “baseload” units.

The same analysis and conclusion apply here. The relevant output factors for Monroe Unit 2 are very similar to those for the Alabama Power units.<sup>14</sup> According to Koppe, in the 24-month baseline period for NO<sub>x</sub> the output factor for Monroe Unit 2 was 80.8% and for the 24-month baseline period for SO<sub>2</sub> it was 81.5%. Thus, Monroe Unit 2, in this context, is nearly identical to the units in *Alabama Power*. Indeed, as is expected for a unit that does not always operate at full capacity, the output factor for Monroe Unit 2 has stayed well below 100% (i.e., full power) over each of the five years immediately preceding the 2010 outage: 2005 (86.0%); 2006 (81.3%); 2007 (87.6%); 2008 (81.1%); and 2009 (83.5%). See Supplemental Expert Report of Mike King (“King Expert Report”) at 22 (June 3, 2011) (attached as Exhibit 9). Quite simply, Monroe Unit 2 is not a baseload unit that operates at full capacity whenever it is available; it is not a baseload unit as that term is used in *Cinergy* and *Alabama Power*.

Nonetheless, Koppe argues in his expert report that Monroe Unit 2 is a “baseload” unit or is “base-loaded.” Koppe Report at 9-10. He points to Company documents, such as a GADS report and a letter to Michigan DEQ in 2007 in support of his argument. *Id.* As the court in *Alabama Power* made clear, these broader definitions of “baseload” are not relevant in this

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<sup>13</sup> This means that Greene County Unit 2 “was operating at 78.7 percent of its total capacity during the times it was operating.” *Alabama Power*, slip op. at 21. Similarly, “Gorgas Unit 10 was operating at 82.1 percent of its total capacity during the times that it was operating.” *Id.* at 22.

<sup>14</sup> Like the Alabama Power units, Monroe Unit 2 operated whenever it was available during the relevant baseline period. Koppe makes much of this fact and contends this validates the application of the method to Monroe Unit 2; however, he conveniently omits the fact that Monroe Unit 2 generation fluctuated below its full capacity, as shown by its output factors. As *Cinergy* and *Alabama Power* made clear, the inquiry must also include the output factor.

context. These characterizations, made in other contexts and employing one of the many other definitions of “baseload” (*see, e.g.*, Deposition of Paul Fessler (“Fessler Dep.”) 63-64 (June 8, 2011) (attached as Ex. 10)), are not instructive in assessing whether Monroe Unit 2 is a “baseload” unit under *Cinergy* and *Alabama Power*. Rather, the question is not only whether Monroe Unit 2 operated all or nearly all of the time it was available to operate, but also *whether Monroe Unit 2 operated at full capacity whenever it operated*.<sup>15</sup> A unit that operated at full capacity whenever it operated would have an output factor of 100%. The output factor for Monroe Unit 2 is considerably lower, nearly the same as the Alabama Power units. The *Cinergy* court recognized that one cannot assume that an increase in availability will result in a proportionate increase in generation under these circumstances. *See Cinergy*, 623 F.3d at 460. As such, the Koppe-Sahu method does not “fit” the facts of this case, and this Court should exclude the opinions of Koppe and Sahu as irrelevant under FRE 702.

**C. The Koppe-Sahu Method Is Also Irrelevant to the Determination of Liability Under the 2002 NSR Reform Rules**

The Koppe-Sahu method is not relevant for a second reason. Unlike *Cinergy* and *Alabama Power*, this case is the first NSR enforcement case brought under the 2002 NSR reform rules. As set forth in Defendants’ Brief in Support of Motion for Summary Judgment Based on the 2002 New Source Review (“NSR”) Reform Rules (Doc. No. 107), the Michigan NSR rules establish two requirements that a source must meet, or “source obligations.” First, the source must provide a pre-project projection that the project will *not cause* emissions to increase above

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<sup>15</sup> The Koppe-Sahu method fails to recognize this key second part of the relevant inquiry. *See* Rebuttal and Supplemental Expert Report at Robert H. Koppe at 22 (July 6, 2011) (attached as Exhibit 11). Koppe focuses on the number of hours that Monroe Unit 2 spends in reserve shutdown annually and – without considering whether Monroe Unit 2 operated at full capacity when it was operating – concludes that fact alone supports his assumption that increased availability *automatically* leads to increased generation. This assumption is precisely what the courts rejected in *Cinergy* and *Alabama Power*.

baseline levels based on “all relevant information” including “the company’s own representations.” Second, the source must conduct post-project monitoring and reporting to confirm the validity of the pre-project projection. MICH. ADMIN. CODE R. 336.2818(3), R. 336.2801(II)(ii)(A).

Where a source complies with this procedure, as Detroit Edison did in this case by submitting its notification of the 2010 outage to MDEQ, it is *not relevant* whether someone else later opines that the company *could have* projected an emissions increase above baseline levels. All that is relevant is whether Detroit Edison complied with the source obligations, which it did, and whether the Projects caused an *actual* increase in emissions irrespective of the projection, which it did not. The Koppe-Sahu method does not answer either question. In other words, the opinions of Koppe and Sahu do not meet the requirement of FRE 702 that expert opinion testimony “assist the trier of fact” in “resolving a factual dispute.” *Daubert*, 509 U.S. at 591 (quoting *U.S. v. Downing*, 753 F.2d 1224, 1242 (3d Cir. 1985)). Thus, the opinions of Koppe and Sahu should also be excluded from trial pursuant to FRE 702.

### CONCLUSION

For the foregoing reasons, Detroit Edison’s motion should be granted, and the Court should enter an Order excluding the opinions of Robert H. Koppe and Ranajit Sahu.

Respectfully submitted this 5<sup>th</sup> day of August 2011.

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**CERTIFICATE OF SERVICE**

I hereby certify that a true and correct copy of the foregoing **DEFENDANTS' MEMORANDUM OF LAW IN SUPPORT OF MOTION *IN LIMINE* TO EXCLUDE THE OPINIONS OF ROBERT H. KOPPE AND RANAJUT SAHU** was electronically filed with the Clerk of Court using the CM/ECF system, which will automatically send email notification of such filing to the following attorneys of record as follows:

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